

Elaboration Likelihood in Knowledge Management: A Model and Experimental Test

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Abstract

Understanding knowledge transfer using computer-mediated context is becoming essential given that organizations are spread more and more globally. In this paper, we adopt elaboration likelihood theory to investigate knowledge transfer processes in a Knowledge Management System (KMS). We report the results of an exploratory experiment conducted to examine the impact of argument quality, source credibility and validation on knowledge usefulness of a document in a KMS. Our findings indicate that while validation of knowledge in KMS positively affects perceptions of knowledge usefulness, higher argument quality was associated with lower usefulness ratings. Surprisingly, source credibility has no effect on perceptions of knowledge usefulness. The implications of these results for both researchers and practitioners are discussed.

research study that investigates how individuals in an organization process and perceive the usefulness of knowledge retrieved from a knowledge repository. A survey was conducted in an experimental setting where subjects are asked to use a mock KMS to make a recommendation. We build and test hypotheses based on theories of information influence [3, 4] and organizational knowledge transfer in mediated contexts [5] to better understand the process by which knowledge in a KMS is evaluated and used by individuals.

2. Theoretical Background & Hypotheses

2.1 KMS and Knowledge Transfer

Organizational knowledge transfer involves the conveyance of knowledge from a source to where it is needed within the organization, and has been identified as a critical component of successful knowledge management practice [6, 7]. Knowledge transfer can occur between and among individuals, departments, teams, and organizations themselves [5, 7]. In many cases, transfer transpires at the direct interface between two knowledge-bearing entities, such as one individual verbally imparting knowledge to another. However, in today's distributed work environment, transfer increasingly takes place across mediated channels of communication in which the knowledge source and knowledge recipient are geographically and temporally disconnected. In such cases, the role of the intervening knowledge medium becomes a key enabler of the knowledge transfer process.

In many ways, information technology is an ideal vehicle for supporting mediated knowledge transfer. Knowledge from a source can be stored within an information system for later retrieval and use by one or many knowledge consumers. This function constitutes the essence of knowledge management systems, which are designed and implemented to facilitate storage,

1. Introduction

In an effort to improve the productivity and efficiency of an entire organization, many companies are devoting great effort to managing their knowledge capital through centralized knowledge management systems (KMS) [1]. The role of KMS becomes increasingly important as knowledge capital stored in the repository is not limited to the traditional customer and product data but now includes valuable "best practices" that can be adopted and reused by the individual employees through a meaningful knowledge transfer process. KMS can potentially support and enhance knowledge transfer by providing ready access to knowledge across personal, departmental, organizational boundaries. Despite this potential, however, KMS can effectively support transfer only to the extent that the knowledge they provide is effectively processed, adopted, and utilized by individual knowledge users [2].

To date, previous research investigating the mechanisms that govern how individuals adopt and internalize KMS knowledge is scant. This paper presents the results of an exploratory

retrieval, transfer, and application of organizational knowledge [8, 9]. KMS enable and enhance these practices by providing a centralized and accessible knowledge repository from which knowledge consumers can draw, invoking internalization of explicit codified knowledge from an external source to an individual's personal consciousness [10]. However, while KMS can facilitate the transfer process, access to knowledge in a KMS does not guarantee that transfer will take place. After it is retrieved, knowledge must be processed and evaluated in such a way that it can be applied to the problem at hand. Not all knowledge retrieved from a KMS will undergo equal processing—some may be carefully analyzed, some briefly examined, and some completely disregarded. Understanding the mechanisms underlying this processing is thus critical to enabling and sustaining KMS-supported knowledge transfer.

Relatively few IS studies have focused on the individual information processing underlying knowledge transfer. One notable exception is Sussman and Siegal [5], who examined adoption of information conveyed in advice-bearing emails. Drawing from the Elaboration Likelihood Model (ELM) [3, 4], Sussman and Siegal examined the role of two information characteristics, argument quality and source credibility, on perceptions of information usefulness and subsequent adoption. Although the context of email differs somewhat from that of KMS, Sussman and Siegal suggest that their findings are applicable to other mediated contexts, such as KMS. We therefore draw from Sussman and Siegal's work as a starting point for exploring the mechanisms underlying knowledge transfer in a KMS environment. The next section discusses the ELM and develops the research hypotheses to be tested.

2.2 The Elaboration Likelihood Model

The Elaboration Likelihood Model is a theory of information influence developed by Petty and Cacioppo [3] to account for variations in information influence across individuals and contexts. ELM states that information influence occurs via a process of cognitive elaboration, wherein the recipient attends to and evaluates various characteristics of the information in question in the process of forming a judgment about its utility. Evaluation of these characteristics is divided into two channels, or

“routes” of information influence: the central route and the peripheral route. The central route operates under conditions of high elaboration likelihood, and is characterized by analysis of the information content itself. Arguments within an informational message are scrutinized and evaluated in context of extant knowledge about the topic in an effort to discern the quality of the information at hand. Intuitively, messages perceived to contain high quality arguments are more likely to exert influence than are those deemed to contain low quality arguments.

Because the central route requires the recipient to engage in focused application of cognitive resources, it does not operate in all circumstances. In cases where high elaboration is too costly, information influence may operate instead through a peripheral route, wherein the recipient evaluates the utility of the information based on decision rules or heuristics, rather than on the merits of the arguments themselves. These rules often focus on various meta-characteristics of the information, such as its provenance and/or various attributes of the source itself. For instance, a message received from a trusted individual may be deemed reliable based on characteristics of the individual alone, with little or no regard to the objective quality of the message content.

The central and peripheral routes represent extremes of an elaboration continuum; typical information processing relies on a combination of both types of processing [3, 5]. Nevertheless, research has identified several factors that make one route more dominant than the other in certain circumstances. First, elaboration likelihood is influenced by the expertise of the information recipient. Because recipients who are experts in the given domain possess advanced mental models that facilitate argument evaluation, they are more likely to engage in central route processing and less likely to rely on peripheral cues than are novices [5, 11]. Second, elaboration likelihood is influenced by the degree to which the message bears personal relevance to the recipient, or the degree to which the recipient is *involved* in the topic. Recipients with a high degree of involvement will be more likely to devote cognitive resources to high-elaboration central route processing, whereas those with low involvement will more readily rely on peripheral cues [3, 4, 12].

In the IS domain, researchers have adopted ELM in seeking to understand the processes by which both systems themselves [13] and information contained in systems [5] are adopted

and used by individuals. Sussman and Siegal's [5] study is particularly relevant to this research. Sussman and Siegal integrate ELM with IS adoption theories to investigate how people evaluate and adopt information received in advice-bearing emails. Drawing from ELM, their theoretical model of information adoption (hereafter referred to as MIA) posits that argument quality (a central route characteristic) and source credibility (a peripheral route characteristic) of an email influence the degree to which the information it contains is considered useful by the recipient. Consistent with IS adoption theories, perceived usefulness of the information, in turn, influences the likelihood of information adoption. In accordance with ELM, the relationships between argument quality and knowledge usefulness, and between source credibility and knowledge usefulness, are moderated by the expertise and involvement of the information recipient. Specifically, high levels of expertise and involvement are expected to intensify the effect of perceived argument quality on knowledge usefulness and decrease the effect of perceived source credibility on knowledge usefulness. The MIA is depicted graphically in Figure 1.

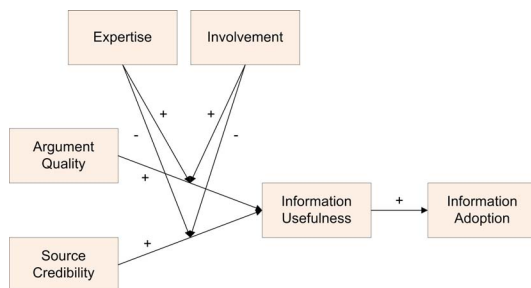


Figure 1. Model of Information Adoption [5]

The context in which Sussman and Siegal [5] applied the MIA, the adoption of advice received via email, differs in some respects from the context in question here; i.e., the adoption of information retrieved from a knowledge repository. Despite some distinctions, however, both contexts are similar in that they entail receipt, evaluation, and adoption/non-adoption of normative, computer-mediated information. We thus adopt the MIA as a theoretical basis for investigating how individuals process and perceive knowledge retrieved from a knowledge repository. Drawing from the MIA, we hypothesize that high perceived argument quality and high perceived source credibility will

positively influence the degree to which a KMS document is perceived as useful. These hypotheses are formalized as follows:

H1: The higher the perceived argument quality of a KMS document, the more useful the knowledge in the document will be perceived to be.

H2: The higher the perceived credibility of the author of a KMS document, the more useful the knowledge in the document will be perceived to be.

In the context of email, argument quality and source credibility are key indicators of the internal validity of an information-bearing message. These attributes are also present in the context of information retrieved from a knowledge repository, since the source of such information is typically available and the quality of the information, which may vary, is open to evaluation by the information consumer. However, many knowledge-based systems offer an additional cue that may contribute to the elaboration process: validation of the knowledge in question. Knowledge validation refers to the process of “continually monitoring, testing, and refining the knowledge in the knowledge base to suit the existing or potential realities” [14 p. 71] faced by the firm, and has been identified as a key component of the knowledge management lifecycle [14, 15]. Validation of knowledge in a KMS is critical in order to avoid the perpetuation of information that is incomplete, incorrect, or obsolete [2, 16]. Validation can be carried out through various mechanisms, including content ratings by knowledge consumers themselves [17], or analysis and review by a trusted expert or committee to ensure knowledge accuracy [18].

Knowledge management literature suggests that validation constitutes an important peripheral cue to which information consumers attend in evaluating knowledge contained in a KMS [17, 19, 20]. A knowledge recipient may hesitate to adopt knowledge from a source whose trustworthiness is questionable or unknown [21]. Because validation offers evidence for content accuracy, knowledge that has been validated is expected to more readily influence the knowledge recipient than knowledge that has not been validated. Consider, for example, a consultant who accesses a KMS document recommending a solution to a particular problem. Given the breadth of potential contributors to the KMS, the consultant may know little, if

anything, about the credentials of the document's source. However, if the consultant sees that the document has been validated by a trusted third party, she will more likely find the information credible and, hence, useful for addressing the task at hand [22]. Research has indeed indicated that validation can significantly improve the quality of knowledge contained in a repository, thereby enhancing its value to knowledge seekers [2, 22, 23]. In view of these arguments, we hypothesize that:

H3: A KMS document that is validated will be perceived as more useful as the one that is not validated.

Finally, our model includes the moderating effects of expertise and involvement in the information elaboration process. Consistent with MIA [5], and ELM [3, 4], higher expertise and involvement of the KMS knowledge recipient are expected to increase reliance on central-route cues (argument quality) and decrease reliance on peripheral-route cues (source credibility and validation) in the elaboration process. Hence, the following are hypothesized:

H4: Recipient expertise will positively moderate the influence of argument quality on knowledge usefulness (H4a) and negatively moderate the influence of source credibility (H4b) and validation (H4c) on knowledge usefulness.

H5: Recipient involvement will positively moderate the influence of argument quality on knowledge usefulness (H5a) and negatively moderate the influence of source credibility (H5b) and validation (H5c) on knowledge usefulness.

Figure 2 summarizes the research hypotheses to be tested. The following section describes the development and implementation of a randomized experiment designed to test our hypotheses.

3. Research Methodology

The study was conducted in an experimental setting to control argument quality, source credibility, and validation, as well as to allow measurement of knowledge usefulness and control variables. A between-subjects experiment was designed that covered two levels of each of the three factors (high or low source credibility and argument quality, and present or not present

validation of the document), providing a 2x2x2 fully factorial design.

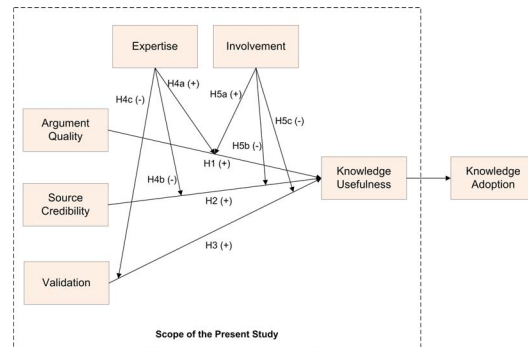


Figure 2. Theoretical Model

The context of the experiment involved the use of a mock KMS to recommend an Internet authentication solution to a client company of an IT consulting firm. Each participant was asked to assume the role of a junior consultant who had just received a memo from his/her supervisor assigning him/her recommend a method of Internet authentication for an internal order processing system utilized by a client company. The memo also suggested that the participant consult the company's KMS to search for possible Internet authentication solutions recommended to past clients. After reading the memo, participants were directed through a staged KMS "search" that yielded one document outlining four potential Internet authentication solutions. The document was structured as follows: For each solution, a general description was provided, followed by a list of pros and cons and a set of instructions for implementing the solution. Experimental treatments were achieved by manipulating the argument quality, source credibility, and validation of the document as described below.

Following prior research [5, 24], argument quality was operationalized by altering the original KMS document along three dimensions: completeness, consistency, and accuracy. Completeness and consistency were manipulated by randomly removing portions of each authentication solution described in the document. Specifically, in the low argument quality conditions, three solutions omitted the discussion of pros, cons or both, while another solution lacked implementation instructions. Accuracy was manipulated by introducing obvious spelling and grammatical errors, such as letter transpositions (authentication), double words (that which..) missing letters (username),

and errant apostrophes (you're web site). These errors are similar to those utilized in previous IS studies [25].

Source credibility was operationalized by indicating the author of the KMS document, as well as providing an experience rating for the author in the form of a five-star scale. In the high source credibility condition, the author was identified the Chief Security Officer of the company who had been MCSE certified and had a 5-star experience rating. The author of the low source credibility condition was identified as a junior analyst with a 1-star experience rating.

Finally, validation was operationalized by indicating whether or not the document had been validated. For the validated condition, the document displayed a prominent indicator stating that the document had been reviewed and validated by the internal IT Security Review Committee. For the non-validated condition, the document displayed a similar field warning that the document had not yet been validated. Figure 3 shows screenshots of source and validation indicators.

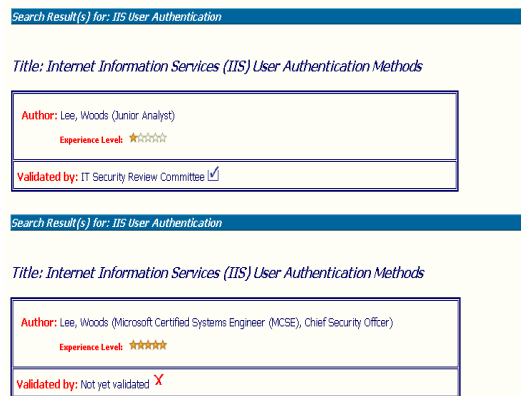


Figure 3. Document Source and Validation Indicators

The dependent variable of knowledge usefulness, together with control variables of expertise and involvement, were operationalized using scales validated in prior research. The knowledge usefulness scale was adapted from IS usefulness scales used in several IS acceptance studies [e.g. 13, 26, 27]. Measures of expertise and involvement were adapted from Sussman and Siegal [5] and Stamm and Dube [12]. The validation measure was developed for this study following the procedure for scale development described in Moore and Benbasat [28]. All items used a 7-point Likert scale format.

A pilot test was conducted prior to the experiment. Fifteen doctoral students participated in the pilot test. Pilot participants were asked to provide feedback on the clarity of the experimental materials and the overall experimental design. Based this feedback, some changes were made to the wording of the experimental materials and the questionnaire.

For primary data collection, participation was solicited from 242 undergraduate business majors sampled from the sections of an upper-division undergraduate MIS course at a large U.S. university. Students were informed that the purpose of the study was to learn about how one makes a decision regarding Internet authentication using a knowledge base system, and were offered course extra credit for participation. Those who elected to participate were randomly assigned to one of 8 treatment conditions (high vs. low argument quality x high vs. low source credibility x validation vs. no validation) upon arrival. The experiment then proceeded as follows: Participants first read the memo, after which they accessed the KMS document outlining four Internet authentication solutions. The document content varied by treatment condition as described above. After reading the document, participants were asked to select one solution to recommend to the client company, together with a rationale for their choice and a confidence rating that they had chosen the best solution. Finally, participants completed an online questionnaire containing measures of experimental and control variables.

4. Results

Experimental results were screened for outliers as a first step in the data analysis. Nine participants were found to have finished the task in less than 10 minutes, with the lower quartile at 12 minutes. After dropping these participants from the data set, a total of 223 valid answers were retained. 159 were males, 126 females, with an average GPA of 3.35 (st.dev. 0.361).

To make sure that the subjects noticed the treatment we conducted manipulation checks using the scales for validation, source credibility and argument quality. These manipulation checks were significant for all three factors; specifically, for validation the means for the two groups were 3.7 and 4.6 ($F = 20.8$, $df 1/231$, $sig = 0.000$), for argument quality the group means were 3.4 and 2.8 ($F = 13.4$, $df 1/231$, $sig = 0.000$), and for source credibility the group

means were 4.5 and 4.9 ($F = 7.6$, $df 1/231$, $sig = 0.006$).

Convergent and discriminant validity of measurement scales were assessed through exploratory factor analysis (Table 1) as well as construct correlations and cross-correlations (Table 2). Results confirm that all constructs demonstrate sufficient convergent and discriminant validity. All Cronbach's alpha scores are above the 0.7 score suggested by Nunnally [29].

We performed a regression analysis to test our hypotheses. As a first step, summated scales were calculated by averaging the individual responses for each construct. These scales constituted the variables used in the analysis. Correlations among independent variables were less than 0.8; hence, multicollinearity was not deemed a problem [30]. Variables were standardized to test for interaction effects. Per Table 3, hypothesis 3 (validation \rightarrow knowledge usefulness) is supported; however, hypotheses 1 (argument quality \rightarrow knowledge usefulness) and 2 (source credibility \rightarrow knowledge usefulness) are not supported. Moreover, neither expertise nor involvement was found to significantly moderate relationships between argument quality, source credibility, and knowledge usefulness, thus failing to support H4a-b and H5a-b. Finally, the influence of validation on knowledge usefulness was positively moderated by recipient involvement, supporting H5c. However, H4c, positing a negative moderating effect of recipient expertise on the validation-usefulness relationship, was not supported. The percentage of variance explained in the dependent variable (knowledge usefulness) was 14.2%.

5. Discussion

This paper draws upon theories of elaboration likelihood and information adoption to understand how individuals form perceptions of knowledge usefulness in a KMS environment. According to ELM, a recipient of a message will evaluate this message using two channels: central and the peripheral. The central route focuses on the content itself, e.g. argument quality of the message. The peripheral route focuses on various meta-characteristics of the message, e.g. source credibility and validation of the message. The influence of these two routes can be moderated by the expertise of the

recipient and his/her involvement in the message content.

Our experiment yielded some interesting results that point at potential singularities in KMS as a vehicle for mediated knowledge transfer. First, higher values of argument quality *negatively* affected perceived usefulness of the knowledge in the repository. This contrasts with the results of Sussman and Siegal [5], who found that argument quality of emails positively influenced usefulness perceptions of the information they contained. One potential explanation for this may have been the length of the document used in the high argument quality condition. As described earlier, argument quality was operationalized by altering the original document along three dimensions: completeness, consistency, and accuracy. In order to make the document complete, it was fairly long (participants had to scroll down 3 screens to read through the entire document). Implementing inconsistencies and lowering completeness reduced the document length by approximately one third, which may have made it easier read and comprehend. Information processing theory suggests that humans are limited in their ability to process large amounts of information [31-33]. The length of a KMS document itself may thus serve as a peripheral cue that affects the degree of processing undertaken by the KMS user. Future research can investigate this issue by manipulating the length of the KMS document in order to arrive at an optimum length that renders analysis of argument quality feasible.

Second, perceived credibility of the document's source had no significant effect on the perception of usefulness of knowledge in the document. Even though participants differentiated between a high and low source credibility (see manipulation check), this distinction did not affect their perception of knowledge usefulness. This again contrasts with Sussman and Siegal [5], who found that source credibility positively predicted perceptions of knowledge usefulness. This contrast may highlight an important difference between KMS and other forms of knowledge media (e.g. email) as vehicles for mediated knowledge transfer. Information received via email is typically received in response to a knowledge seeker's solicitation for advice. This was the case in Sussman and Siegal's study, where selected emails had been received in response to a request for information (see [5], p. 54 for examples).

Knowledge seekers using email are likely to solicit information from individuals with whom they are familiar, or, at minimum, whose proficiency in the subject matter is known. In contrast, knowledge seekers using a KMS typically do not receive knowledge in response

to a request directed at a known source. Rather, the source may be only remotely familiar, if known at all. Moreover, information retrieved from a KMS may be viewed as less ‘personal’ than a direct response received from a colleague via email. Taken together, these factors may

Table 1. Exploratory Factor Analysis with Varimax Rotation

Item	Item Wording	SC	KU	VAL	AQ	EXP	INV
SC4	How reliable is the author? (Not Reliable, Somewhat Reliable, Extremely Reliable)	0.874	-0.035	0.188	-0.136	0.096	0.004
SC3	How trustworthy is the author? (Not Trustworthy, Somewhat Trustworthy, Extremely Trustworthy)	0.867	-0.054	0.171	-0.076	0.098	0.010
SC5	How credible is the author? (Not Credible, Somewhat Credible, Extremely Credible)	0.861	0.005	0.182	-0.109	0.085	0.032
SC2	How would you rate the expertise of the author with respect to IIS authentication? (Low Expertise, Average Expertise, High Expertise)	0.735	0.125	-0.040	-0.396	-0.036	0.052
SC1	How knowledgeable about IIS authentication is the author? (Not Knowledgeable, Somewhat Knowledgeable, Extremely Knowledgeable)	0.663	0.182	-0.043	-0.282	-0.113	0.049
KU2	The content of the solution document was valuable to me in making my recommendation	0.043	0.943	0.110	-0.079	-0.046	0.042
KU1	I found the content of the solution document useful in making my recommendation	0.027	0.922	0.113	-0.098	0.046	0.014
KU3	The content of the solution document improved my ability to decide on a solution	0.050	0.889	0.151	-0.104	-0.029	0.043
VAL3	The accuracy of the solution document content was verified	0.080	0.075	0.871	-0.172	0.038	0.037
VAL2	There is evidence that the content of the solution document was confirmed	0.131	0.082	0.859	-0.214	0.012	-0.004
VAL1	The content of the solution document was validated	0.174	0.258	0.819	-0.079	0.076	0.008
AQ2	The content of the solution document was: Consistent...Inconsistent	-0.231	-0.093	-0.164	0.831	0.015	0.044
AQ1	The content of the solution document was: Complete...Incomplete	-0.308	-0.122	-0.116	0.749	-0.071	0.161
AQ3	The content of the solution document was: Accurate...Inaccurate	-0.228	-0.102	-0.317	0.746	-0.110	-0.043
EXP2	To what extent are you an expert on the topic of user authentication?	0.057	-0.050	0.124	-0.112	0.810	0.269
EXP1	How informed are you on the subject matter of user authentication?	0.054	-0.035	0.023	-0.201	0.800	0.241
EXP3	Overall, I consider myself a novice with respect to user authentication.	0.015	0.040	-0.009	0.134	0.750	-0.034
INV1	In general, I find the topic of user authentication very interesting.	0.044	0.029	0.044	0.044	0.136	0.888
INV2	I've been thinking about authentication issues lately.	0.042	0.064	-0.012	0.077	0.219	0.843

Table 2. Descriptive Statistics, Reliability, AVE, and Inter-Construct Correlations

#	Construct/Dimension	# of items	Response Mean	Std. Dev.	Cronbach's Alpha	Internal Consistency	AVE	1	2	3	4	5	6
1	Knowledge Usefulness	3	5.68	1.27	0.94	0.94	0.92	0.92					
2	Validation	3	4.20	1.51	0.89	0.89	0.72	0.32*	0.85				
3	Argument Quality	3	2.95	1.28	0.84	0.83	0.83	-0.22*	-0.39*	0.79			
4	Source Credibility	5	4.89	1.05	0.89	0.90	0.80	0.13*	0.30*	-0.54*	0.80		
5	Expertise	3	3.25	1.35	0.71	0.84	0.69	0.01	0.11	-0.13*	0.11	0.81	
6	Involvement	2	3.48	1.71	0.77	0.86	0.75	0.08	0.04	-0.04	0.09	0.39*	0.87

*Correlations greater than 0.125 are significant at 0.05

Table 3. Regression Results

		Std. Beta	t	Sig.	
Step 1	Constant		0.000	1.000	R-squared = 0.117 F change = 10.12 (3/229) Sig. F change = 0.000
	Argument Quality	-0.139	-1.844	0.066	
	Source Credibility	-0.033	-0.448	0.654	
	Validation	0.277	4.071	0.000	
Step 2	Constant		-0.130	0.897	R-squared = 0.142 F change = 1.073 (6/223) Sig. F change = 0.379
	Argument Quality	-0.150	-1.955	0.052	
	Source Credibility	-0.030	-0.403	0.687	
	Validation	0.281	4.099	0.000	
	AQ * INV	-0.009	-0.111	0.912	
	AQ * EXP	0.010	0.131	0.896	
	SC * INV	0.105	1.414	0.159	
	SC * EXP	-0.078	-0.926	0.356	
	VAL * EXP	0.114	1.632	0.104	
VAL * INV	-0.142	-1.969	0.050		

introduce increased ‘distance’ between the knowledge source and knowledge recipient, eroding the latter’s ability to effectively judge the former’s credibility. Supporting this idea, many of our participants reported that, because they had no prior experience with the document author, they had difficulty judging his/her credibility, despite the fact that he/she was identified as expert/novice. This implies that, for knowledge retrieved from a KMS, more cues may be needed to judge credibility of a source than just an indication of expertise. Future

research should pursue this question further by examining how various mechanisms enhancing personalization and source familiarity influence processing of information in a KMS and other knowledge transfer media.

Finally, our results showed that a validated document was perceived to be more useful than one that was not validated. This finding accords with prior knowledge management literature identifying validation as a valuable signal of knowledge quality [17, 19, 20]. Future research should build upon our results by further

examining the influence of validation compared with other, potentially contrasting peripheral cues. In addition, the effect of alternative validation mechanisms (e.g. expert review vs. community ratings) should be investigated to identify consequent nuances in the knowledge elaboration process.

For practitioners, this study highlights critical attributes of KMS knowledge that must be managed so as to enable effective knowledge transfer. Our results indicate that more detail in a KMS document may not always result in increased perceptions of utility, suggesting that practitioners should regulate the length and detail of KMS content. In addition, richer mechanisms may be necessary for adequately conveying source credibility, particularly in environments where the source is likely to be unfamiliar to the knowledge seeker. Finally, our results corroborate the position that knowledge validation is an important contributor to perceptions of knowledge usefulness.

As with any empirical research, limitations of the present study should be recognized. First, the experimental context of this study, while allowing for controlled observation of the study's variables, may decrease the applicability of the findings to real-world KMS scenarios. In addition, using students as participants may limit generalizability of our results to the rest of the population. Second, offering students extra credit may not reflect actual incentives received in the real world, potentially resulting in participants exercising less caution in their behavior than would real-world knowledge workers. However, we sought to mitigate this limitation by making the amount of extra credit received contingent on students' performance. A future study may use employees of real firms that encounter situations like the one in the experiment while performing their job duties. Finally, the task was not a typical representation of KMS use in that participants were exposed to only one KMS document. In real KMS environments, users would likely research more than one resource before making a recommendation. In a future study, it may be possible to offer more than one entry and allow more time to make a decision in order to better reflect a real work environment.

6. Conclusion

This exploratory study is a first step toward better understanding elaboration processes in the

context of KMS-enabled knowledge transfer. The findings from our experiment demonstrate the importance of elaboration mechanisms in judging KMS knowledge utility, and underscore the subtle distinctions between KMS and other knowledge transfer media. Specifically, argument quality and validation were found to negatively and positively influence perceptions of KMS knowledge usefulness, respectively, while source credibility had no significant effect on this perception. We have planned future studies that will build upon the findings of this paper by (a) incorporating multiple documents into the experimental task in order to introduce the element of participant knowledge selection, (b) controlling for document length across treatment conditions, and (c) applying and refining the theoretical model through experimental and field studies of actual knowledge workers.

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